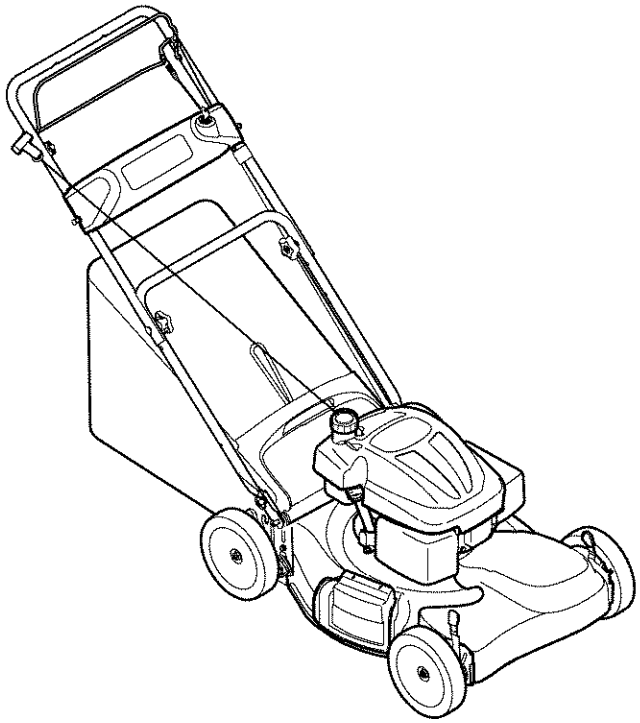
Safe Operation Practices • Set-Up • Operation • Maintenance • Service • Troubleshooting • Warranty

OPERATOR'S MANUAL



Self Propelled Mower — Model E46J

⚠ WARNING

READ AND FOLLOW ALL SAFETY RULES AND INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY.

MTD LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019

Printed In USA

Form No. 769-03859
(January 31, 2008)

To The Owner

1

Thank You

Thank you for purchasing a Lawn Mower manufactured by MTD LLC. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. MTD LLC reserves the right to change product specifications, designs and equipment without notice and without incurring obligation.

This product has met the rigid safety standards of the Outdoor Power Equipment Institute and an independent testing laboratory. If you have any problems or questions concerning the machine, phone your local authorized MTD service dealer or contact us directly. MTD's Customer Support telephone numbers, website address and mailing address can be found on this page. We want to ensure your complete satisfaction at all times.

Throughout this manual, all references to *right* and *left* side of the machine are observed from the operating position

The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the engine manufacturer's Owner's/Operator's Manual, packed separately with your machine, for more information.

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Record Product Information

Before setting up and operating your new equipment, please locate the model plate on the equipment and record the information in the provided area to the right. You can locate the model plate by standing at the operator's position and looking down at the rear of the deck. This information will be necessary, should you seek technical support via our web site, Customer Support Department, or with a local authorized service dealer.

MODEL NUMBER

SERIAL NUMBER

Customer Support

Please do NOT return the machine to the retailer or dealer without first contacting our Customer Support Department.

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

◊ Visit us on the web at www.mtdproducts.com

◊ Call a Customer Support Representative at (800) 800-7310 or (330) 220-4683

◊ Write us at MTD LLC • P.O. Box 361131 • Cleveland, OH • 44136-0019

Important Safe Operation Practices

2

WARNING: This symbol points out important safety instructions which, if not followed, could endanger the personal safety and/or property of yourself and others. Read and follow all instructions in this manual before attempting to operate this machine. Failure to comply with these instructions may result in personal injury.
When you see this symbol. **HEED ITS WARNING!**

CALIFORNIA PROPOSITION 65

WARNING: Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to State of California to cause cancer and birth defects or other reproductive harm.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. *Wash hands after handling.*

DANGER: This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating fingers, hands, toes and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

General Operation

1. Read this operator's manual carefully in its entirety before attempting to assemble this machine. Read, understand, and follow all instructions on the machine and in the manuals) before operation. Keep this manual in a safe place for future and regular reference and for ordering replacement parts
2. Be completely familiar with the controls and the proper use of this machine before operating it.
3. This machine is a precision piece of power equipment, not a plaything. Therefore, exercise extreme caution at all times. This machine has been designed to perform one job: to mow grass. Do not use it for any other purpose.
4. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and should be trained and supervised by an adult.
5. Only responsible individuals who are familiar with these rules of safe operation should be allowed to use this machine.
6. Thoroughly inspect the area where the equipment is to be used. Remove all stones, sticks, wire, bones, toys and other foreign objects, which could be tripped over or picked up and thrown by the blade. Thrown objects can cause serious personal injury.
7. Plan your mowing pattern to avoid discharge of material toward roads, sidewalks, bystanders and the like. Also, avoid discharging material against a wall or obstruction, which may cause discharged material to ricochet back toward the operator.
8. To help avoid blade contact or a thrown object injury, stay in operator zone behind handles and keep children, bystanders, helpers and pets at least 75 feet from mower while it is in operation. Stop machine if anyone enters area.
9. Always wear safety glasses or safety goggles during operation and while performing an adjustment or repair to protect your eyes. Thrown objects which ricochet can cause serious injury to the eyes.
10. Wear sturdy, rough-soled work shoes and close-fitting slacks and shirts. Shirts and pants that cover the arms and legs and steel-toed shoes are recommended. Never operate this machine in bare feet, sandals, slippery or light-weight (e.g. canvas) shoes.
11. Do not put hands or feet near rotating parts or under the cutting deck. Contact with blade can amputate fingers, hands, toes and feet.

12. A missing or damaged discharge cover can cause blade contact or thrown object injuries.
13. Many injuries occur as a result of the mower being pulled over the foot during a fall caused by slipping or tripping. Do not hold on to the mower if you are falling; release the handle immediately.
14. Never pull the mower back toward you while you are walking. If you must back the mower away from a wall or obstruction first look down and behind to avoid tripping and then follow these steps:
    a. Step back from mower to fully extend your arms.
    b. Be sure you are well balanced with sure footing.
    c. Pull the mower back slowly, no more than half way toward you.
    d. Repeat these steps as needed.
15. Do not operate the mower while under the influence of alcohol or drugs.
16. Do not engage the self-propelled mechanism on machines so equipped while starting engine.
17. The blade control handle is a safety device. Never attempt to bypass its operation. Doing so makes the safety device inoperative and may result in personal injury through contact with the rotating blade. The blade control handle must operate easily in both directions and automatically return to the disengaged position when released.
18. Never operate the mower in wet grass. Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your footing, release the blade control handle immediately and the blade will stop rotating within three seconds.
19. Mow only in daylight or good artificial light. Walk, never run.
20. Stop the blade when crossing gravel drives, walks or roads.
21. If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
22. Shut the engine off and wait until the blade comes to a complete stop before removing the grass catcher or unclogging the chute. The cutting blade continues to rotate for a few seconds after the blade control is released. Never place any part of the body in the blade area until you are sure the blade has stopped rotating.
23. Never operate mower without proper trail shield, discharge cover, grass catcher, blade control handle or other safety protective devices in place and working. Never operate mower with damaged safety devices. Failure to do so can result in personal injury.
24. Muffler and engine become hot and can cause a burn. Do not touch.
25. Never attempt to make a wheel or cutting height adjustment while the engine is running.
26. Only use parts and accessories made for this machine by the manufacturer. Failure to do so can result in personal injury.
27. When starting engine, pull cord slowly until resistance is felt, then pull rapidly. Rapid retraction of starter cord (kickback) will pull hand and arm toward engine faster than you can let go. Broken bones, fractures, bruises or sprains could result.
28. If situations occur which are not covered in this manual, use care and good judgement. Contact Customer Support for assistance or the name of the nearest service dealer.

Slope Operation

Slopes are a major factor related to slip and fall accidents, which can result in severe injury. Operation on slopes requires extra caution. If you feel uneasy on a slope, do not mow it. For your safety, use the slope gauge included as part of this manual to measure slopes before operating this machine on a sloped or hilly area. If the slope is greater than 15 degrees, do not mow it.

Do:

1. Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes.
2. Watch for holes, ruts, rocks, hidden objects, or bumps which can cause you to slip or trip. Tall grass can hide obstacles.
3. Always be sure of your footing. A slip and fall can cause serious personal injury. If you feel you are losing your balance, release the blade control handle immediately and the blade will stop rotating within three (3) seconds.

Do Not:

1. Do not mow near drop-offs, ditches or embankments, you could lose your footing or balance.
2. Do not mow slopes greater than 15 degrees as shown on the slope gauge.
3. Do not mow on wet grass. Unstable footing could cause slipping.

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and the mowing activity. They do not understand the dangers. Never assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under watchful care of a responsible adult other than the operator.
2. Be alert and turn mower off if a child enters the area.
3. Before and while moving backwards, look behind and down for small children.
4. Use extreme care when approaching blind corners, doorways, shrubs, trees, or other objects that may obscure your vision of a child who may run into the mower.
5. Keep children away from hot or running engines. They can suffer burns from a hot muffler.
6. Never allow children under 14 years of age to operate this machine. Children 14 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.

Service

Safe Handling Of Gasoline:

1. To avoid personal injury or property damage use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Serious personal injury can occur when gasoline is spilled on yourself or your clothes, which can ignite. Wash your skin and change clothes immediately.
2. Use only an approved gasoline container.
3. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
4. Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.
5. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
6. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
7. Never fuel machine indoors because flammable vapors will accumulate in the area.
8. Never remove gas cap or add fuel while engine is hot or running. Allow engine to cool at least two minutes before refueling.
9. Never over fill fuel tank. Fill tank to no more than 1 inch below bottom of filler neck to provide for fuel expansion.
10. Replace gasoline cap and tighten securely.
11. If gasoline is spilled, wipe it off the engine and equipment. Move machine to another area. Wait 5 minutes before starting engine.
12. Never store the machine or fuel container near an open flame, spark or pilot light as on a water heater, space heater, furnace, clothes dryer or other gas appliances.
13. To reduce fire hazard, keep machine free of grass, leaves, or other debris build-up. Clean up oil or fuel spillage and remove any fuel soaked debris.
14. Allow machine to cool at least 5 minutes before storing.

General Service:

1. Never run an engine indoors or in a poorly ventilated area. Engine exhaust contains carbon monoxide, an odorless and deadly gas.
2. Before cleaning, repairing, or inspecting, make certain the blade and all moving parts have stopped. Disconnect the spark plug wire and ground against the engine to prevent unintended starting.
3. Check the blade and engine mounting bolts at frequent intervals for proper tightness. Also, visually inspect blade for damage (e.g., bent, cracked, worn) Replace blade with the original equipment manufacture's (O.E.M.) blade only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
4. Mower blades are sharp and can cut. Wrap the blade or wear gloves, and use extra caution when servicing them.
5. Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.
6. Never tamper with safety devices. Check their proper operation regularly.
7. After striking a foreign object, stop the engine, disconnect the spark plug wire and ground against the engine. Thoroughly inspect the mower for any damage. Repair the damage before starting and operating the mower.
8. Never attempt to make a wheel or cutting height adjustment while the engine is running.
9. Grass catcher components, discharge cover, and trail shield are subject to wear and damage which could expose moving parts or allow objects to be thrown. For safety protection, frequently check components and replace immediately with original equipment manufacturer's (O.E.M.) parts only, listed in this manual. "Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety!"
10. Do not change the engine's governor setting or over-speed the engine. The governor controls the maximum safe operating speed of the engine.
11. Check fuel line, tank, cap, and fittings frequently for cracks or leaks. Replace if necessary.
12. Do not crank engine with spark plug removed.
13. Maintain or replace safety and instruction labels, as necessary.
14. Observe proper disposal laws and regulations. Improper disposal of fluids and materials can harm the environment.

Do not modify engine

To avoid serious injury or death, do not modify engine in any way. Tampering with the governor setting can lead to a runaway engine and cause it to operate at unsafe speeds. Never tamper with factory setting of engine governor.

Notice Regarding Emissions

Engines which are certified to comply with California and federal EPA emission regulations for SORE (Small Off Road Equipment) are certified to operate on regular unleaded gasoline, and may include the following emission control systems: Engine Modification (EM), Oxidizing Catalyst (OC), Secondary Air Injection (SAI) and Three Way Catalyst (TWC) if so equipped.

Spark Arrestor

WARNING: This machine is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any).

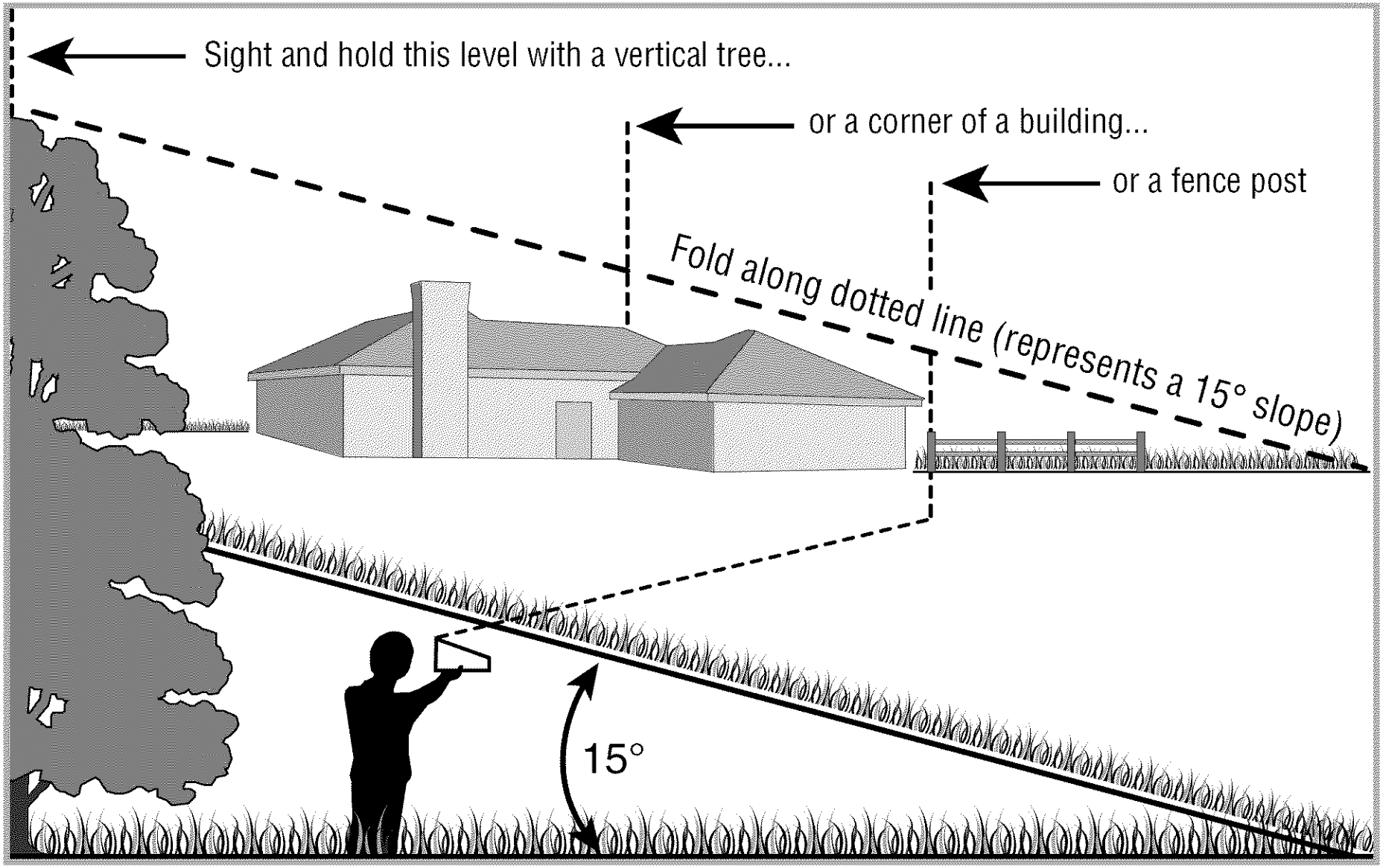
If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands.
A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 361131 Cleveland, Ohio 44136-0019.

Average Useful Life

According to the Consumer Products Safety Commission (CPSC) and the U.S. Environmental Protection Agency (EPA), this product has an *Average Useful Life* of seven (7) years, or 140 hours of operation. At the end of the *Average Useful Life*, buy a new machine or have the machine inspected annually by an authorized service dealer to ensure that all mechanical and safety systems are working properly and not worn excessively. Failure to do so can result in accidents, injuries or death.

WARNING: Your Responsibility—Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.

SAVE THESE INSTRUCTIONS!


Sight and hold this level with a vertical tree...
or a corner of a building...
or a fence post
Fold along dotted line (represents a 15° slope)
15°

Use this page as a guide to determine slopes where you may not operate safely.

WARNING: Do not operate your lawn mower on such slopes. Do not mow on inclines with a slope in excess of 15 degrees (a rise of approximately 2-1/2 feet every 10 feet). A riding mower could overturn and cause serious injury. Operate riding mowers up and down slopes, never across the face of slopes. Operate walk-behind mowers across the face of slopes, never up and down slopes.

Assembly & Set-Up

3

Contents of Carton

- One Lawn Mower
- One Grass Catcher
- One Lawn Mower Operator's Manual
- One Side Discharge Chute
- One Bottle of Oil
- One Hardware Pack

Assembly

NOTE: This unit is shipped without gasoline or oil in the engine. Fill up gasoline and oil as instructed in the accompanying engine manual BEFORE operating your mower.

Handle

1. Remove any packing material which may be between upper and lower handles.
   a. Pull up and back on upper handle as shown in Fig. 3-1. Make certain the lower handle is seated securely into the handle mounting brackets. Do not crimp cable while lifting the handle up.

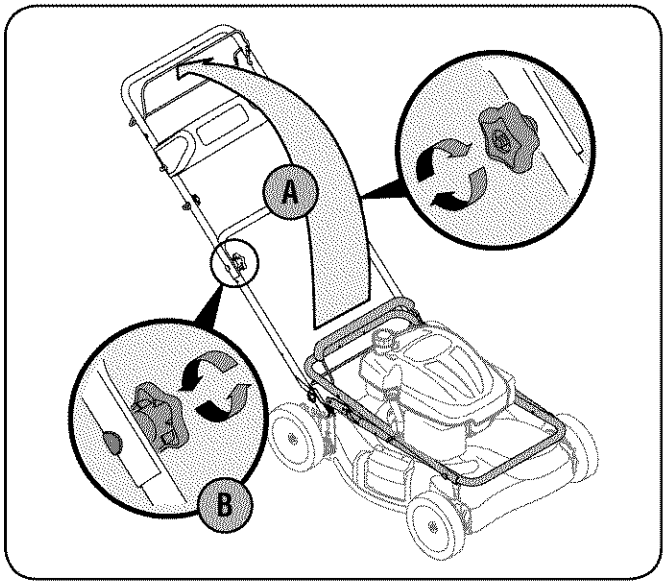


Figure 3-1

   b. Tighten star knobs to secure upper handle to lower handle. Make sure that each carriage bolt is seated properly in the handle.

2. Insert a carriage bolt from the hardware pack into the upper hole on the handle mounting bracket. Secure with one plastic wing nut, also included in the hardware pack. Repeat on other side with remaining items from hardware pack. See Fig. 3-2.

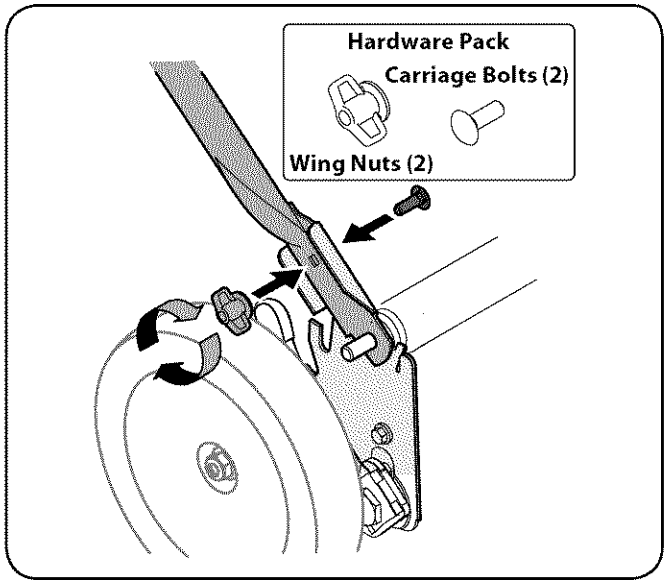


Figure 3-2

3. The rope guide is attached to the right side of the upper handle. See Fig. 3-3. Loosen the wing nut which secures the rope guide.

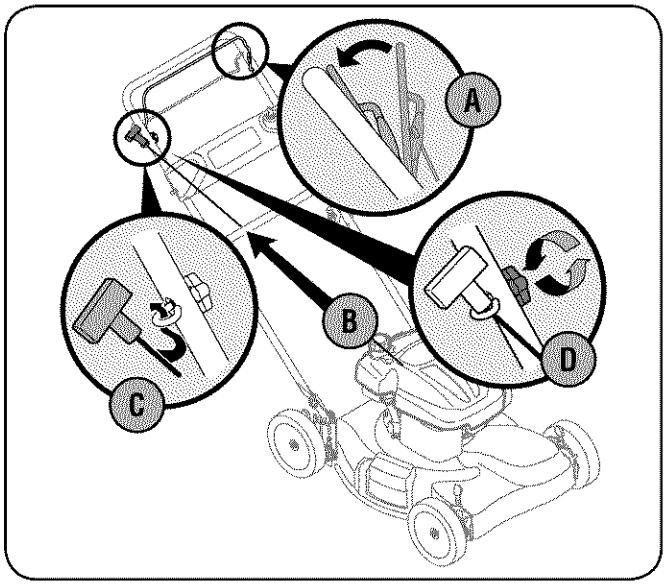


Figure 3-3

   a. Hold blade control against upper handle.
   b. Pull starter rope out of the engine. Release blade control.
   c. Slip starter rope into rope guide.
   d. Tighten wing nut.

4. Insert post on cable tie into hole provided on the lower handle. Pull cable tie tight and trim excess.

Grass Catcher

1. Follow steps below to assemble the grass catcher. Make certain bag is turned right side out before assembling (warning label will be on the outside).
   a. Place bag over frame so that its black plastic side is at the bottom.
   b. Slip plastic channel of grass bag over hooks on the frame. See Fig. 3-4. All the plastic channels except center top of bag attach from outside of frame.

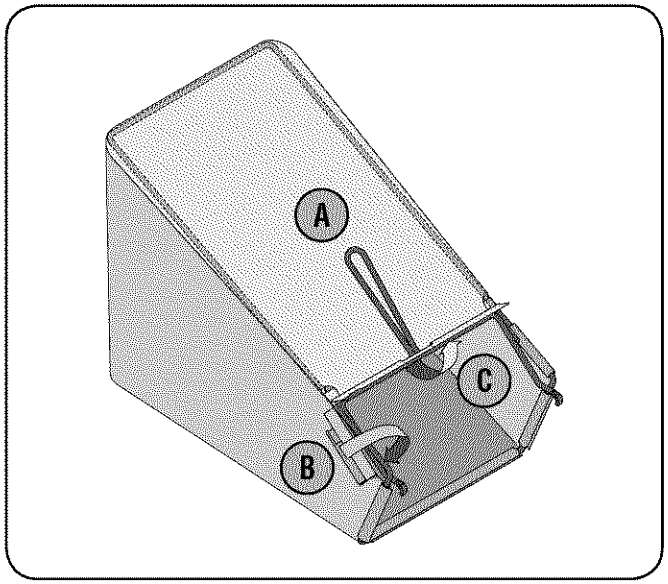


Figure 3-4

   c. Attach center top of bag from inside of frame.

2. Follow the steps below to attach the grass catcher:
   a. Lift rear discharge door. See Fig. 3-5.

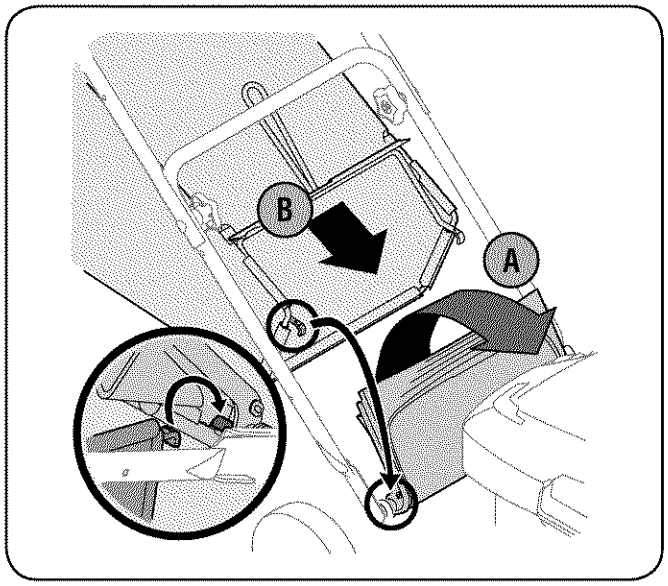


Figure 3-5

   b. Place grass catcher on the pivot rod. Let go of discharge door so that it rests on the grass catcher.

WARNING: Never operate mower unless the hooks on the grass catcher are firmly seated on the pivot rod and the rear discharge door rests firmly against top of the grass catcher.

Side Discharge Chute

Your mower is shipped as a mulcher. To convert to side discharge, make sure grass catcher is off of the unit and rear discharge door is closed.

1. On the side of the mower, lift the mulching plug. See Figure 3-6.

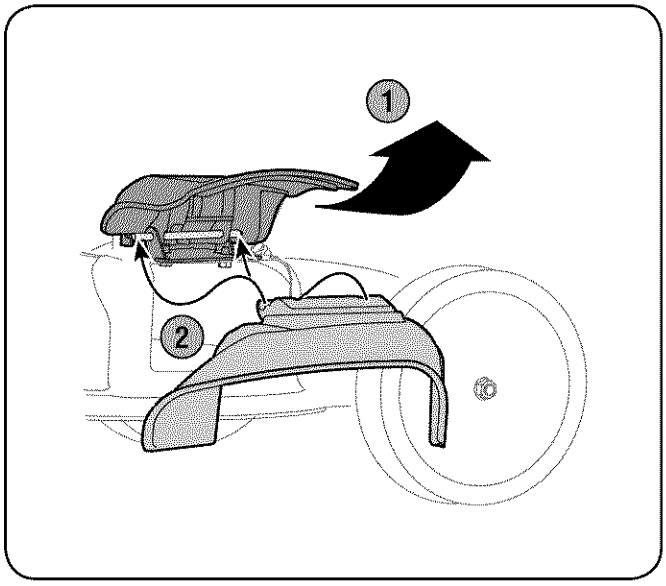


Figure 3-6

2. Slide two hooks of side discharge chute under hinge pin on mulching plug assembly. Lower the mulching plug. Do not remove side mulching plug at any time, even when you are not mulching.

Adjustments

Cutting Height

Each wheel has a height adjustment lever to change the cutting height of the mower.

1. Depress height adjustment lever towards wheel.
2. Slide lever to desired position for a change in cutting height. See Fig. 3-7.

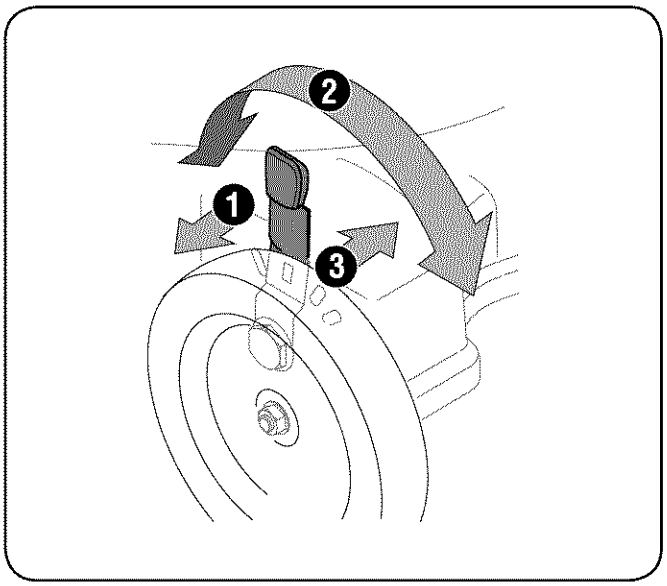


Figure 3-7

3. Release lever towards deck.

   IMPORTANT: All wheels must be placed in the same relative position. For rough or uneven lawns, move the height adjustment lever to a higher position. This will stop scalping of grass.

Set-Up

Gas and Oil Fill-Up

Refer to the Engine Operation section in this manual for additional engine information.

1. Add oil provided before starting unit for the first time out of the box.
2. Service the engine with gasoline as instructed in the Engine Operation section of this manual.

WARNING: Use extreme care when handling gasoline. Gasoline is extremely flammable and the vapors are explosive. Never fuel the machine indoors or while the engine is hot or running. Extinguish cigarettes, cigars, pipes and other sources of ignition.

3. Charge battery as instructed in the Service section of this manual (Electric Start Units).

Controls and Features

4

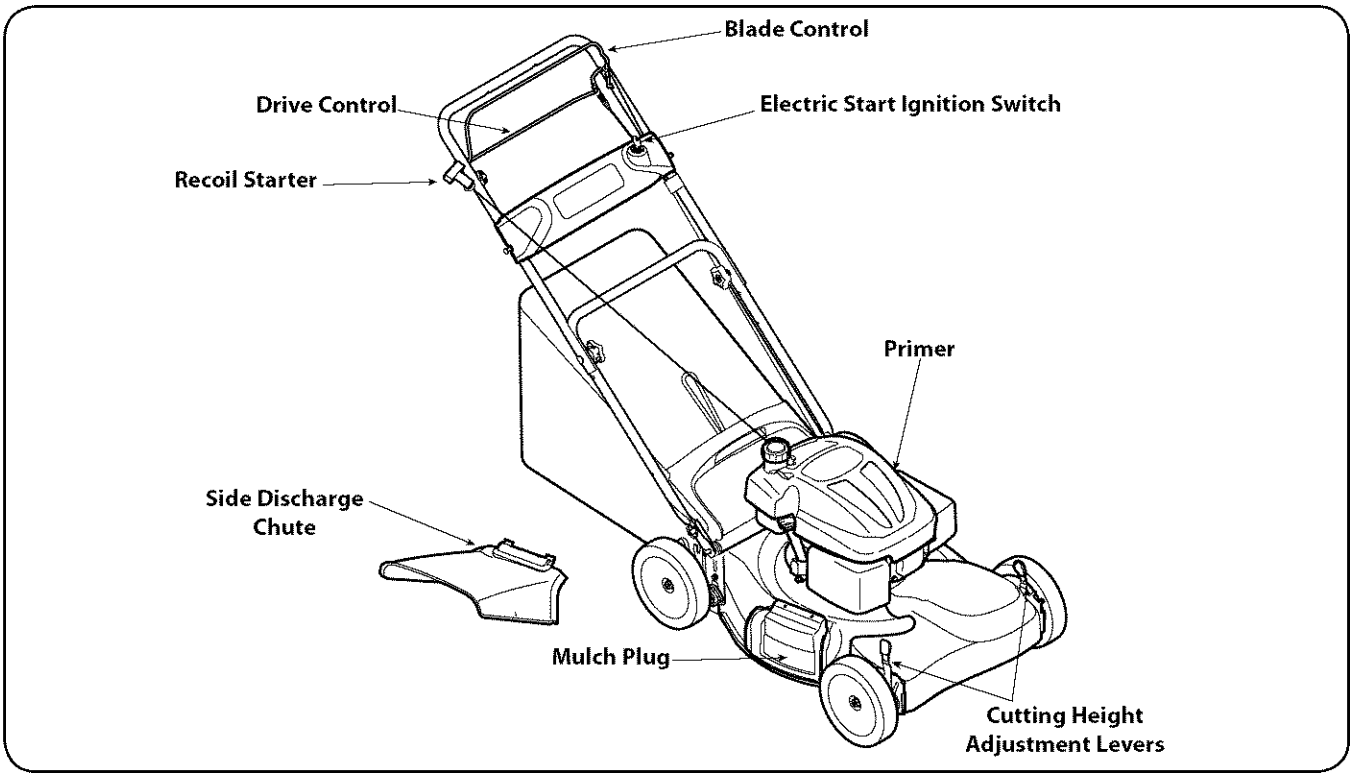


Figure 4-1

Blade Control

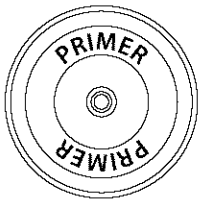
The blade control is attached to the upper handle of the mower. Depress and squeeze it against the upper handle to operate the unit. Release it to stop engine and blade.

WARNING: This blade control is a safety device. Never attempt to bypass its operations.

Drive Control

The drive control is located on the underside of the upper handle and is used to engage the drive. Squeeze it against the upper handle to engage the drive; release it to slow down or stop mower from propelling.

Primer



The primer is located on the left side of the engine, behind the air cleaner. Pressing the primer forces fuel directly into the engine's carburetor to aid in starting the engine.

Cutting Height Adjustment Levers

One adjustment lever is located on each wheel and is used to adjust the cutting height. All four levers have to be at the same relative position to ensure a uniform cut.

Mulch Plug

The mulch plug is used for mulching purposes. Instead of collecting the grass clippings in a grass catcher or using the side discharge chute, some mower models have the option of recirculating the clippings back to the lawn. This is called mulching.

Side Discharge Chute

Your mower is shipped as a mulcher. To discharge the grass clippings to the side instead, follow the instructions in the Assembly & Set-Up section to attach the side discharge chute.

WARNING: Keep hands and feet away from the chute area on cutting deck. Refer to warning label on the unit.

Electric Start Ignition Switch

The ignition switch is located on the left side of the handle panel. It is used only for the electric starter.

Recoil Starter

The recoil starter is attached to the right upper handle. Stand behind the unit and pull the recoil starter rope to start the unit.

Operation

5

Starting Engine

WARNING: Be sure no one other than the operator is standing near the lawn mower while starting engine or operating mower. Never run engine indoors or in enclosed, poorly ventilated areas. Engine exhaust contains carbon monoxide, an odorless and deadly gas. Keep hands, feet, hair and loose clothing away from any moving parts on engine and lawn mower.

1. Push primer 3 times. Wait about two seconds between each push. See Fig. 5-1. In temperature below 50°F, prime 5 times. After the engine is warmed up, one prime may be needed for all temperatures.
2. Standing behind the mower, squeeze and hold the blade control against upper handle.
3. **Recoil Start:** Pull the recoil starter lightly until resistance is felt, then pull rapidly to overcome compression, prevent kickback, and start the engine. Repeat if necessary. See Fig. 5-1.

   NOTE: Do not allow the recoil starter to snap back against the rope guide.

   Electric Start: Turn ignition key to the right to start the engine. Release the key after the engine starts. See Fig. 5-1.

   If engine does not start, it may be necessary to re-prime the engine.

Stopping Engine

1. Release blade control to stop the engine and blade.

WARNING: Wait for the blade to stop completely before performing any work on the mower or to remove the grass catcher.

Using Your Lawn Mower

Be sure lawn is clear of stones, sticks, wire, or other objects which could damage lawn mower or engine. Such objects could be accidently thrown by the mower in any direction and cause serious personal injury to the operator and others.

1. Once the engine is running, squeeze the drive control against the upper handle to propel mower.

WARNING: The operation of any lawn mower can result in foreign objects being thrown into the eyes, which can damage your eyes severely. Always wear safety glasses while operating the mower, or while performing any adjustments or repairs on it.

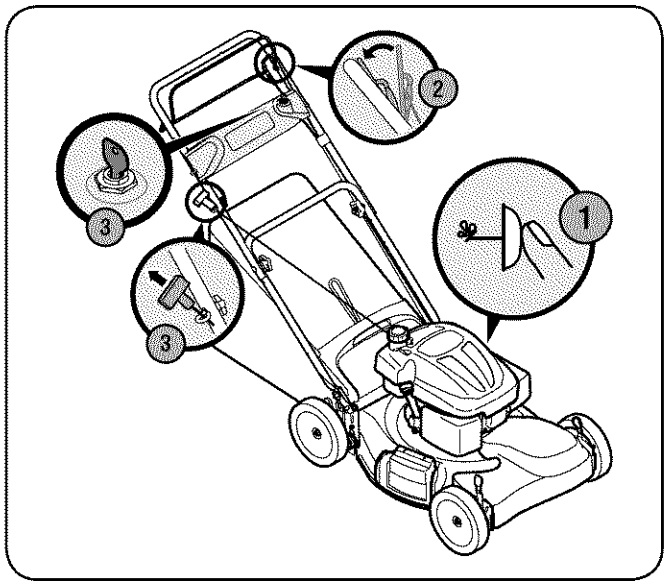


Figure 5-1

Using as Mulcher

For mulching grass, remove the grass catcher and side discharge chute from the mower. For effective mulching, do not cut wet grass. If the grass has been allowed to grow in excess of four inches, mulching is not recommended. Use the grass catcher to bag clippings instead.

Using Grass Catcher

You can use the grass catcher to collect clippings while you are operating the mower.

1. Attach grass catcher following instructions in the "Assembly & Set-Up" section. Grass clippings will automatically collect in bag as you run mower. Operate mower till grass bag is full.
2. Stop engine completely by releasing the blade control. Make sure that the unit has come to a complete stop.
3. Lift discharge door and pull grass bag up and away from the mower to remove the bag. Dispose of the grass clippings and reinstall the bag when complete.

WARNING: If you strike a foreign object, stop the engine. Remove wire from the spark plug, thoroughly inspect mower for any damage, and repair damage before restarting and operating. Extensive vibration of mower during operation is an indication of damage. The unit should be promptly inspected and repaired.

Maintenance & Adjustments

6

Maintenance

General Recommendations

- Always observe safety rules when performing any maintenance.
- The warranty on this lawn mower does not cover items that have been subjected to operator abuse or negligence. To receive full value from warranty, operator must maintain the lawn mower as instructed here.
- Changing of engine-governed speed will void engine warranty.
- All adjustments should be checked at least once each season.
- Periodically check all fasteners and make sure these are tight.

WARNING: Always stop engine, disconnect spark plug, and ground against engine before performing any type of maintenance on your machine.

Lubrication

1. Lubricate pivot points on the blade and drive controls at least once a season with light oil. These controls must operate freely in both directions. See Fig. 6-1.

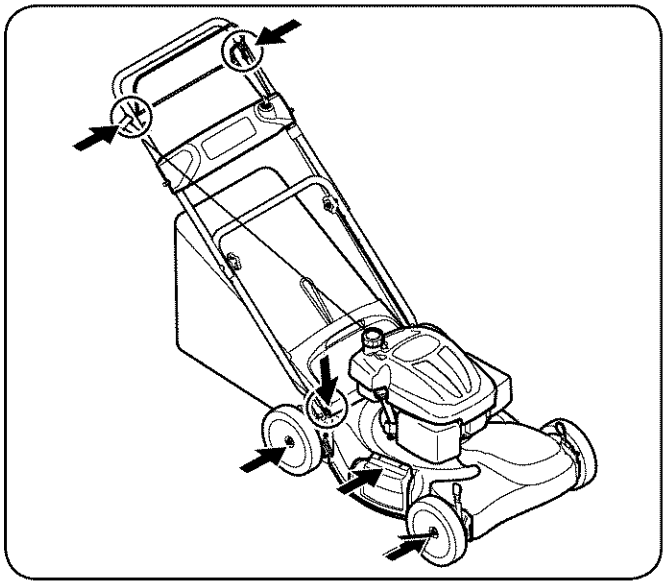


Figure 6-1

2. Lubricate the wheels at least once a season with light oil (or motor oil). If wheels are removed for any reason, lubricate surface of the pivot arm and inner surface of the wheel with light oil. See Fig. 6-1.
3. Lubricate the torsion spring and pivot points on the rear discharge door and side mulch plug periodically with light oil to prevent rust. See Fig. 6-1.
4. The transmission is pre-lubricated and sealed at the factory and does not require lubrication.
5. Follow the Engine Maintenance section for lubrication schedule and instruction for engine lubrication.

Deck Care

Clean underside of the mower deck after each use to prevent build-up of grass clippings or other debris. Follow steps below for this job.

1. Disconnect spark plug wire. Drain gasoline from lawn mower or place a piece of plastic under the gas cap.
2. Tip mower so that it rests on the housing. Keep the side with the air cleaner facing up. Hold mower firmly.

WARNING: Never tip the mower more than 90° in any direction and do not leave the mower tipped for any length of time. Oil can drain into the upper part of the engine causing a starting problem.

3. Scrape and clean the underside of the deck with a suitable tool. Do not spray with water.

   IMPORTANT: Do not use a pressure washer or garden hose to clean your unit. These may cause damage to bearings, or the engine. The use of water will result in shortened life and reduce serviceability.
4. Put the mower back on its wheels on the ground. If you had put plastic under the gas cap earlier, make sure to remove it now.

Engine Care

NOTE: Refer to the Engine Operation and Maintenance sections in this manual for detailed instructions.

- Maintain oil level.
- Service air cleaner every 25 hours under normal conditions. Clean every few hours under extremely dusty conditions.
- Clean spark plug and reset the gap once a season.
- Clean engine regularly with a cloth or brush. Keep the area around the top of the engine clean to permit proper air circulation. Remove all grass, dirt, and combustible debris from muffler area.

Replacing Rear Flap

1. To remove rear flap, lift rear door, and press flap in on either side to remove from hole. See Fig. 6-2.

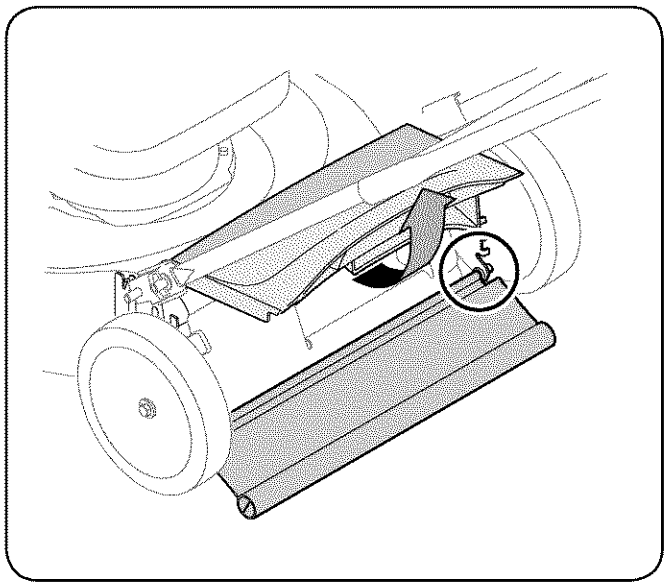


Figure 6-2

2. Remove flap from opposite hole and replace with new flap in the opposite order and manner of removal.

Blade Care

WARNING: When removing the cutting blade for sharpening or replacement, protect your hands with a pair of heavy gloves or use a heavy rag to hold the blade.

Periodically inspect the blade adapter for cracks, especially if you strike a foreign object. Replace when necessary. Follow the steps below for blade service.

1. Disconnect spark plug boot from spark plug. Turn mower on its side making sure that the air filter and the carburetor are facing up.
2. Remove the bolt and the blade bell support which hold the blade and the blade adapter to the engine crankshaft. See Fig. 7-1.

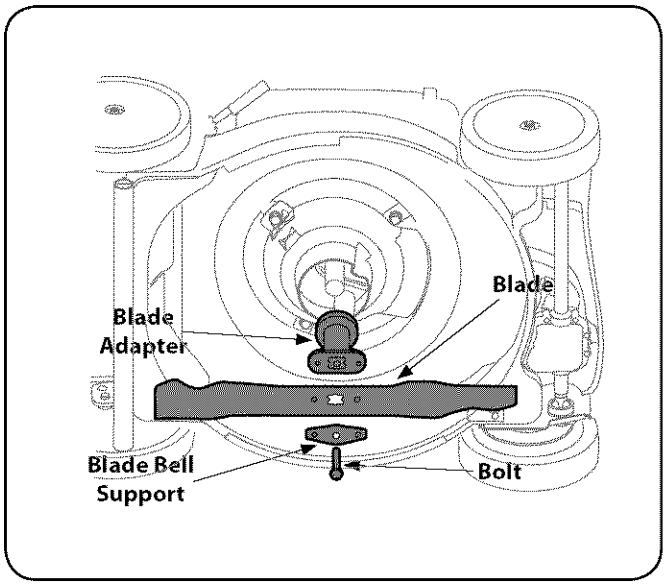


Figure 7-1

3. Remove blade and adapter from the crankshaft. See Fig. 7-1.
4. Remove blade from the adapter for testing balance. Balance the blade on a round shaft screwdriver to check. Remove metal from the heavy side until it balances evenly. When sharpening the blade, follow the original angle of grind. Grind each cutting edge equally to keep the blade balanced.

WARNING: An unbalanced blade will cause excessive vibration when rotating at high speeds. It may cause damage to mower and could break causing personal injury.

5. Lubricate the engine crankshaft and the inner surface of the blade adapter with light oil. Slide the blade adapter onto the engine crankshaft. Place the blade on the adapter such that the side of the blade marked "Bottom" (or with part number) faces the ground when the mower is in the operating position. Make sure that the blade is aligned and seated on the blade adapter flanges.
6. Place blade bell support on the blade. Align notches on the blade bell support with small holes in blade.
7. Replace hex bolt and tighten hex bolt to torque: 450 in. lbs. min., 600 in. lbs. max.

To ensure safe operation of your mower, periodically check the blade bolt for correct torque.

Belt Care

1. Remove two shoulder screws securing front drive cover to mower deck. See Figure 7-2. Press inward on sides of front drive cover and release tabs that secure it to the height adjuster brackets. Remove drive cover from mower.

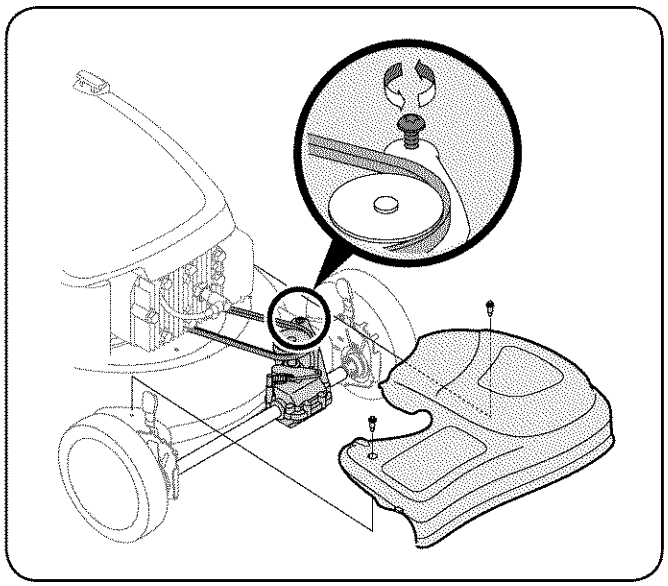


Figure 7-2

2. Loosen screw holding belt tension spring to transmission. See Figure 7-2 inset. Do not remove screw completely. As you loosen it, tension on the belt will be released. Push transmission up a little and slide belt off the transmission pulley.
3. Tip mower on its side with the air filter up to access belt from underside of mower and remove blade as described in the previous section. Refer to Fig. 7-1.

4. Press inward on tab on the engine baffle to release it from the baffle bracket. See Fig. 7-3.

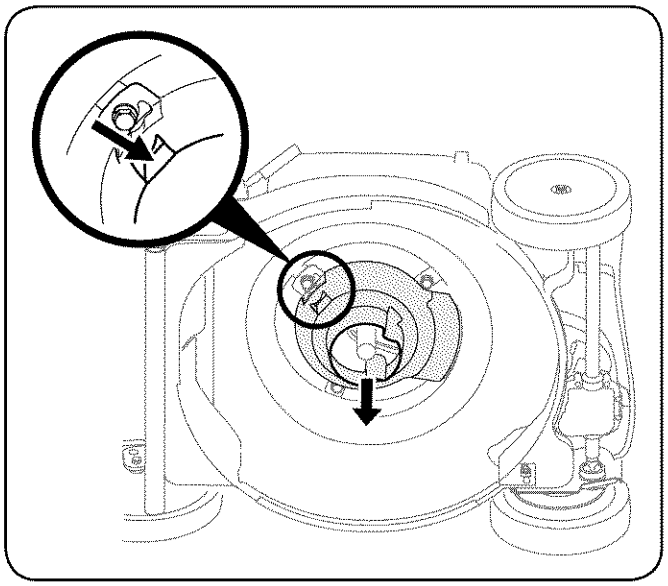


Figure 7-3

5. Slide belt off of engine pulley and thread through the opening in the deck. See Figure 7-4.

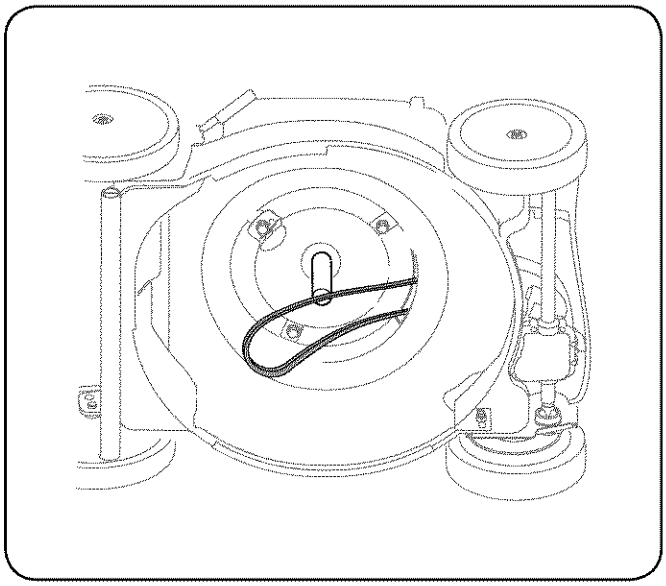


Figure 7-4

6. Replace with new belt, making sure belt is firmly seated on engine pulley while pulling from the other side and sliding it around the transmission pulley.
7. Reattach engine baffle and reassemble blade as described in the previous section.
8. Turn mower back over and make sure belt is seated on the transmission pulley. Tighten screw loosened earlier to secure belt tension spring to the transmission.
9. Reassemble front drive cover.

Replacing Battery

WARNING: Batteries contain sulfuric acid which may cause burns. Do not short circuit or mutilate batteries in any way. Do not put batteries in fire as these may burst or release toxic materials.

1. Loosen star knobs securing upper and lower handles and carefully fold the upper handle down toward the lower handle as shown in Fig. 7-5.

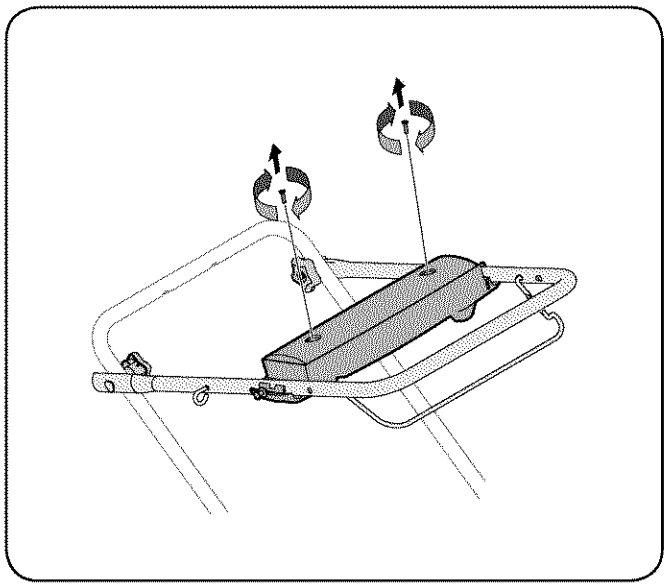


Figure 7-5

2. Remove the two screws securing battery cover to battery housing and place them to the side. See Fig. 7-5.
3. Open battery cover, remove positive and negative leads from battery, remove and replace with new battery. Connect the positive lead to the positive side of the battery pack, then connect the negative side.

NOTE: The battery you have may differ slightly from the one shown in Fig. 7-6. Refer to the Parts List.

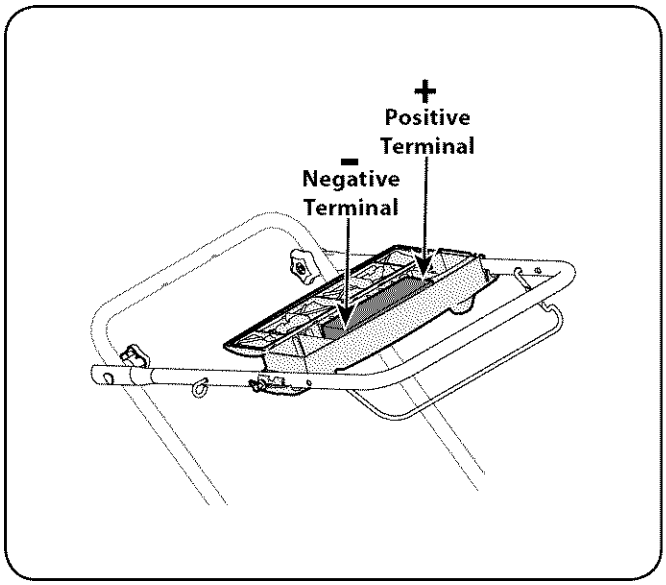


Figure 7-6

IMPORTANT: When replacing battery pack in handle panel, battery pack must be positioned with the positive terminal to the left side and the negative terminal to the right side of panel (Positive terminal is closest to the key switch). See Fig. 7-6. Replacing battery pack incorrectly will cause serious damage.

4. Reattach battery cover to battery housing by securing with the two screws removed earlier, making sure to snap the wire conduit on the left into place on the housing.
5. Fold handles back up and tighten star knobs.

Charging Battery

WARNING: The battery contains corrosive fluid and toxic material; handle with care and keep away from children. Do not puncture, disassemble, mutilate or incinerate the battery. Explosive gases could be vented during charging or discharging. Use in a well ventilated area, away from sources of ignition.

NOTE: The special designed plug on the charger will only fit into the plug on the battery box.

1. Plug the battery charger into the port on the underside of the battery housing. See Fig. 7-7.

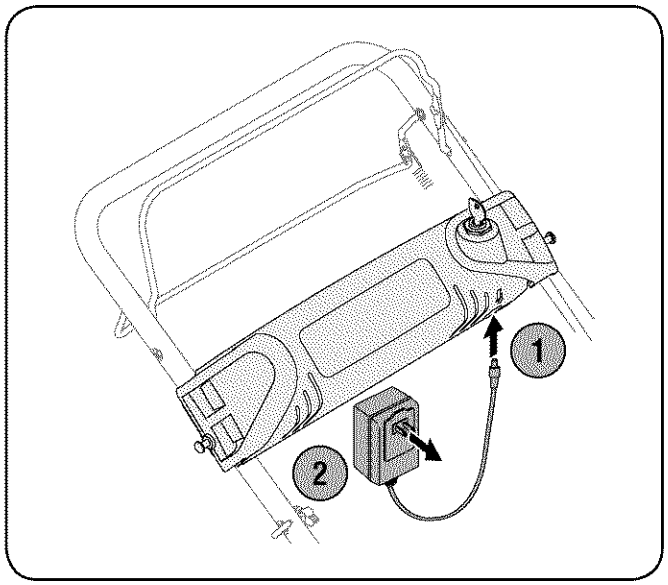


Figure 7-7

2. Insert the battery charger plug into a standard 120 volt household outlet. Charge battery for 8 to 10 hours before initial use. **Do not charge longer than 12 hours.**

   NOTE: For optimal engine starting performance and battery life, charge the battery after every use until the green LED light on the charger illuminates.
3. After charging, disconnect charger plug from outlet first, then disconnect charger lead from battery.

   IMPORTANT: Do not remove the battery pack from the electric starter housing for any reason other than replacement.

   IMPORTANT: Always plug charger lead into battery pack lead first, and then insert battery charger plug into 120 volt standard household outlet. Follow this order of action every time you charge the battery.

Replacing Fuse

The electric starter circuit and battery are protected by a 40 ampere fuse. If the fuse burns out, the electric starter will not operate. If the unit fails to start with the electric starter, perform the following steps to check the fuse inside the battery housing:

1. Open the battery cover as described in Replacing Battery. See Fig. 7-5.
2. Remove fuse from socket and inspect as shown in Fig. 7-8. If it is burned out, replace with standard automotive 40 ampere fuse.

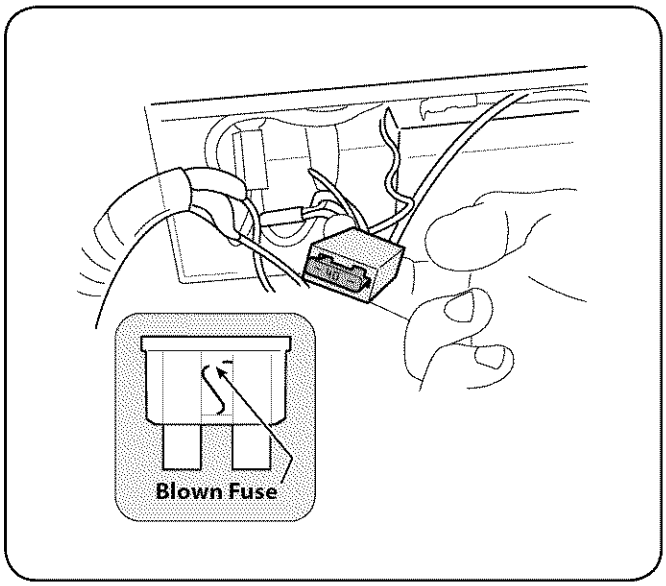


Figure 7-8

3. Carefully place wiring back into housing, close battery cover, and fold upper handle back into place.

   NOTE: The engine can be started manually if the fuse burns out.

Off-Season Storage

The following steps should be taken to prepare your lawn mower for storage.

- Clean and lubricate mower thoroughly as described in the lubrication instructions.
- Do not use a pressure washer or garden hose to clean your unit.
- Coat mower's cutting blade with chassis grease to prevent rusting.
- Refer to Engine Maintenance section for correct engine storage instructions.
- Store mower in a dry, clean area. Do not store next to corrosive materials, such as fertilizer.

When storing any type of power equipment in a poorly ventilated or metal storage shed, care should be taken to rust-proof the equipment. Using a light oil or silicone, coat the equipment, especially cables and all moving parts of your lawn mower before storage.

Battery

The battery must be stored with a full charge. Extended storage of a discharged battery will reduce life and capacity of the battery.

Troubleshooting

8

Problem	Cause	Remedy
Engine Fails to start	1. Blade control disengaged. 2. Spark plug boot disconnected. 3. Fuel tank empty or stale fuel. 4. Engine not primed (if equipped with primer). 5. Faulty spark plug. 6. Blocked fuel line. 7. Engine flooded. 8. Fuel valve (if equipped) closed. 9. Engine not choked (if equipped with choke). 10. Burnt fuse. (Electric Start only)	1. Engage blade control. 2. Connect wire to spark boot. 3. Fill tank with clean, fresh gasoline. 4. Prime engine as instructed in the Operation section. 5. Clean, adjust gap, or replace. 6. Clean fuel line. 7. Wait a few minutes to restart, but do not prime. 8. Open fuel valve. See engine manual. 9. Choke engine. See engine manual. 10. Replace fuse (see Service Section).
Engine runs erratic	1. Spark plug boot loose. 2. Blocked fuel line or stale fuel. 3. Vent in gas cap plugged. 4. Water or dirt in fuel system. 5. Dirty air cleaner. 6. Unit running with CHOKE (if equipped) applied.	1. Connect and tighten spark plug boot. 2. Clean fuel line; fill tank with clean, fresh gasoline. 3. Clear vent. 4. Drain fuel tank. Refill with fresh fuel. 5. Refer to engine manual. 6. Push CHOKE knob in.
Engine overheats	1. Engine oil level low. 2. Air flow restricted.	1. Fill crankcase with proper oil. 2. Clean area around and on top of engine.
Occasional skips (hesitates) at high speed	1. Spark plug gap too close.	1. Adjust gap to .030".
Idles poorly	1. Spark plug fouled, faulty, or gap too wide. 2. Dirty air cleaner.	1. Reset gap to .030" or replace spark plug. 2. Refer to engine manual.
Excessive Vibration	1. Cutting blade loose or unbalanced. 2. Bent cutting blade.	1. Tighten blade and adapter. Balance blade. 2. See an authorized service dealer.
Mower will not mulch grass	1. Wet grass. 2. Excessively high grass. 3. Dull blade.	1. Do not mow when grass is wet; wait until later to cut. 2. Mow once at a high cutting height, then mow again at desired height or make a narrower cutting path. 3. Sharpen or replace blade.

Continued on next page

Problem	Cause	Remedy
Uneven cut	1. Wheels not positioned correctly.	1. Place all four wheels in same height position (if equipped with individual height adjusters).
	2. Dull blade.	2. Sharpen or replace blade.
Mower will not self propel	1. Belt not installed properly.	1. Check belt for proper pulley installation and movement.
	2. Debris clogging drive operation.	2. Stop engine, disconnect spark plug boot, and clean out debris.
	3. Damaged or worn belt.	3. Inspect and replace belt.

Engine Operation

9

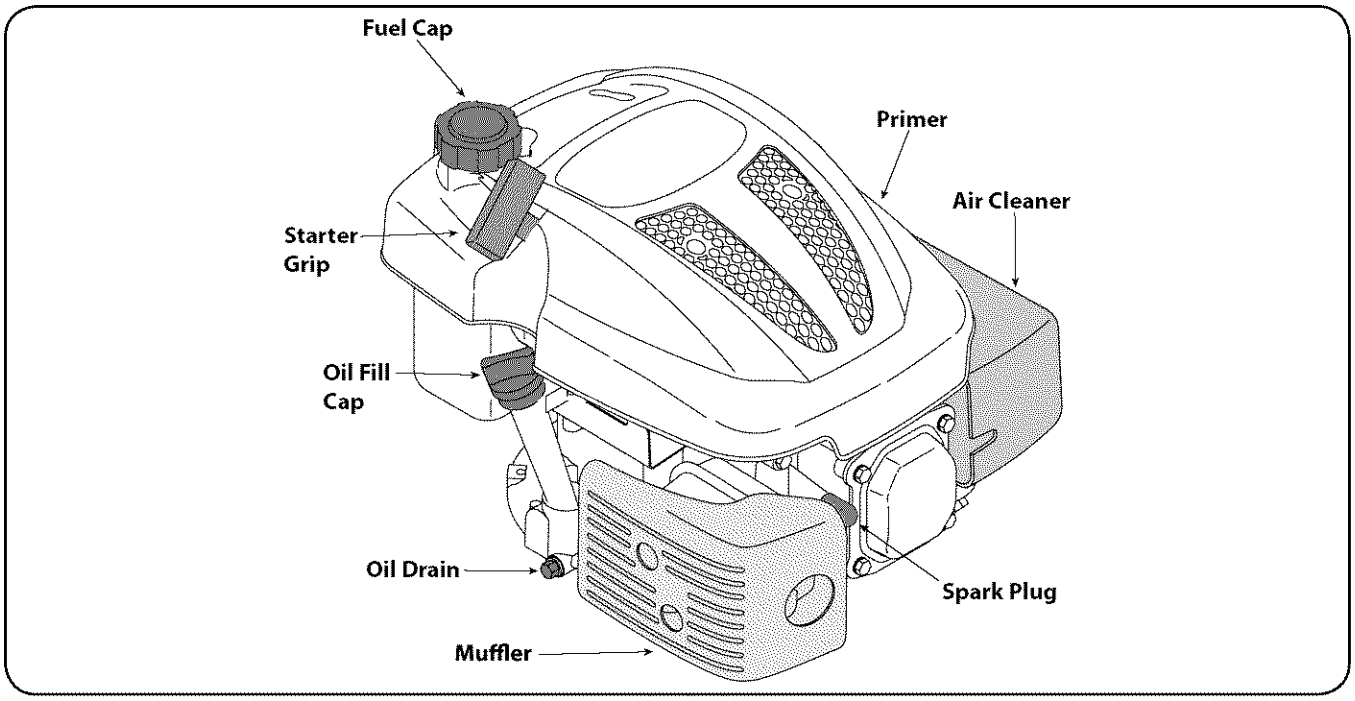


Figure 10-1

Pre-Operation Check

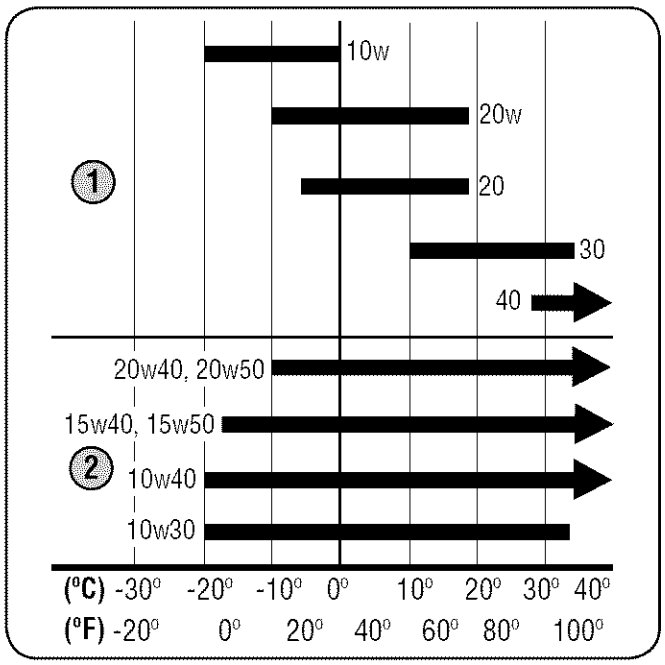
Oil Recommendations

NOTE: This engine is shipped without gasoline or oil in the engine. Running the engine with insufficient oil can cause serious engine damage and void the engine warranty.

- Before starting engine, fill with oil. Do not over-fill. Oil capacity is about 20 oz.

Use a 4-stroke, or an equivalent high detergent, premium quality motor oil certified to meet or exceed U.S. automobile manufacturer's requirements for service classification SG/SF. Motor oils classified SG/SF will show this designation on the container.

SAE 10W-30 is recommended for general, all temperature use. If single viscosity oil is used, select the appropriate viscosity for the average temperature in your area from the chart to the right.



Ambient Temperature

1. Single Viscosity
2. Multi Viscosity

NOTE: Using non detergent oil or 2-stroke engine oil could shorten the engine's service life.

Check Oil Level

NOTE: Be sure to check the engine on a level surface with the engine stopped.

1. Remove the oil filler cap and wipe the dipstick clean. See Fig. 10-2.

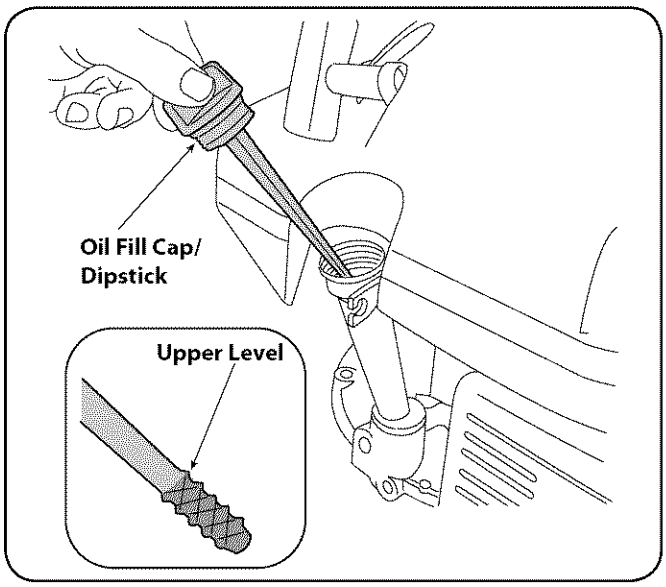


Figure 10-2

2. Insert the dipstick into the oil filler neck, but do not screw it in.
3. If the level is low, slowly add oil to the upper limit on the dipstick. See Fig. 10-2 inset.
4. Tighten dipstick firmly before starting engine.

   NOTE: Do not overfill. Overfilling with oil may cause smoking, hard starting, spark plug fouling, or oil saturation of air cleaner.

Fuel Recommendations

Use automotive gasoline (unleaded or low leaded to minimize combustion chamber deposits) with a minimum of 87 octane. Gasoline with up to 10% ethanol or 15% MTBE (Methyl Tertiary Butyl Ether) can be used. Never use an oil/gasoline mixture, dirty gasoline, or gasoline over 30 days old. Avoid getting dirt, dust, or water in the fuel tank. **DO NOT USE E85 GASOLINE**.

WARNING: Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flames or sparks in the area where the engine is refueled or where gasoline is stored. Avoid repeated or prolonged contact with skin or breathing of vapor.

WARNING: Do not overfill the fuel tank (there should be no fuel in the filler neck). After refueling, make sure the tank cap is closed properly and securely. Be careful not to spill fuel when refueling. Spilled fuel or fuel vapor may ignite. If any fuel is spilled, make sure the area is dry before starting the engine.

Check Fuel Level

1. Clean around fuel fill before removing cap to fuel.
2. Fill tank to approximately 1-inch below lowest portion of neck to allow for fuel expansion. Be careful not to overfill.

   NOTE: Before refueling, allow engine to cool 2 minutes.

Starting The Engine

WARNING: Always keep hands and feet clear of equipment moving parts. Do not use a pressurized starting fluid. Vapors are flammable.

1. Push primer 3 times. Wait about two seconds between each push. See Fig. 10-3. In temperature below 50°F, prime 5 times. After the engine is warmed up, one prime may be needed for all temperatures.

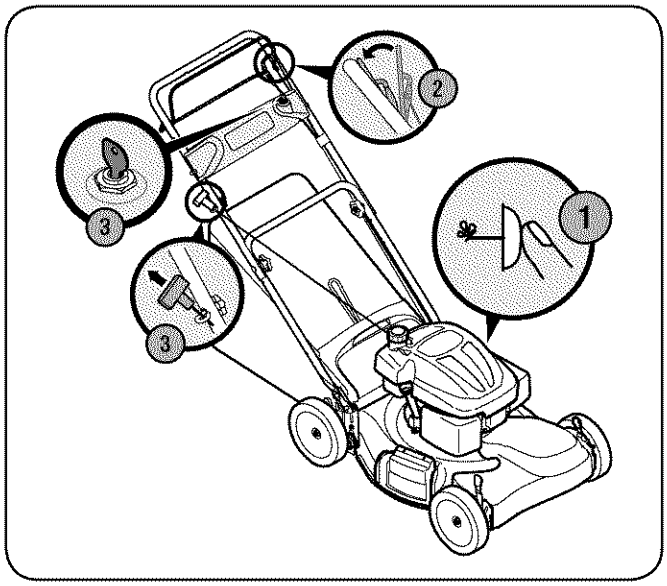


Figure 10-3

2. Standing behind the mower, squeeze and hold the blade control against upper handle.
3. **Recoil Start:** Pull the recoil starter lightly until resistance is felt, then pull rapidly to overcome compression, prevent kickback, and start the engine. Repeat if necessary. See Fig. 10-3.

   NOTE: Do not allow the recoil starter to snap back against the rope guide.

   Electric Start: Turn ignition key to the right to start the engine. Release the key after the engine starts. See Fig. 10-3.

   If engine does not start, it may be necessary to re-prime the engine.

Stopping The Engine

1. Release the blade control.

Engine Maintenance

10

WARNING: Shut off the engine before performing any maintenance. To prevent accidental start-up, disconnect the spark plug boot.

IMPORTANT: If engine must be tipped to transport equipment or to inspect or remove grass, keep spark plug side of engine up. Transporting or tipping engine spark plug down may cause smoking, hard starting, spark plug fouling, or oil saturation of air cleaner.

Periodic inspection and adjustment of the engine is essential if high level performance is to be maintained. Regular maintenance will also ensure a long service life. The required service intervals and the kind of maintenance to be performed are described in the table below. Follow the hourly or calendar intervals, whichever occur first. More frequent service is required when operating in adverse conditions.

WARNING: If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

Maintenance Schedule

	First 5 Hours	Each Use or Every 5 Hrs.	Every Season or 25 Hours	Every Season or 50 Hours	Every Season or 100 Hours	Service Dates
Check Engine Oil Level		✓				
Change Engine Oil ††	✓			✓		
Check Air Cleaner		✓				
Service Air Cleaner †					✓	
Check Spark Plug			✓			
Replace Spark Plug					✓	
Clean Engine Shroud		✓				
Clean around muffler		✓				
Replace Fuel Filter					✓	

† Service more frequently when used in dusty areas.

†† Every season or 25 hours if operating under heavy load or high ambient temperature.

Oil Service

- Check oil level regularly.
- Be sure correct oil level is maintained. Check every five hours or daily before starting engine. See oil checking procedure in the Operation section.

Oil Change

IMPORTANT: Be sure to check engine on a level surface with the engine stopped. Drain the oil while the engine is still warm to assure rapid and complete draining.

1. Remove all fuel from tank by running engine until it stops from lack of fuel.
2. Remove drain plug and allow oil to drain into a suitable container. See Fig. 10-1.

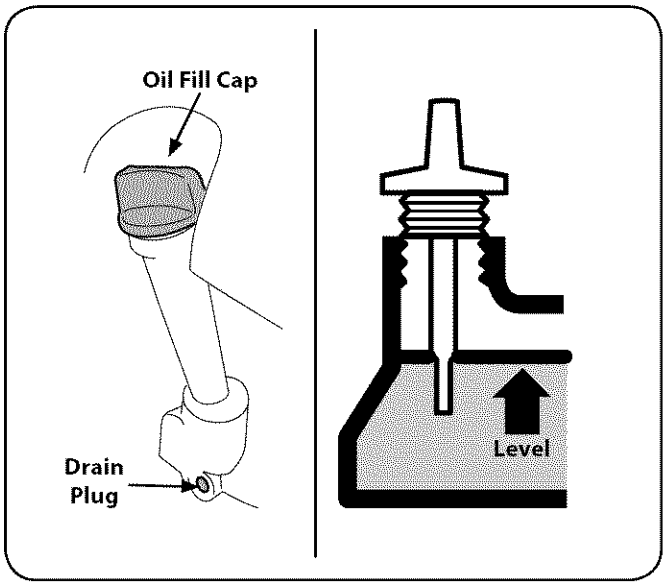


Figure 10-1

WARNING: Before tipping engine or equipment to drain oil, drain fuel from tank by running engine until fuel tank is empty.

3. Reinstall the drain plug and tighten it securely.
4. Refill with the recommended oil (see Operation section) and check the oil level. See Fig. 10-1.
5. Reinstall the oil fill cap securely.

IMPORTANT: Used motor oil may cause skin cancer if repeatedly left in contact with the skin for prolonged periods. Although this is unlikely unless you handle used oil on a daily basis, it is still advisable to thoroughly wash your hands with soap and water as soon as possible after handling used oil.

NOTE: Please dispose of used motor oil in a manner that is compatible with the environment. We suggest you take it in a sealed container to your local service station for reclamation. Do not throw it in the trash or pour it on the ground.

Air Cleaner Service

Paper filters cannot be cleaned and must be replaced once a year or every 100 operating hours; more often if used in extremely dusty conditions.

WARNING: Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.

IMPORTANT: Never run the engine without the air cleaner. Rapid engine wear will result.

1. Remove the wing bolt and the air cleaner cover. Remove the elements and separate them. See Fig. 10-2. Replace paper element when dirty or damaged. Clean foam element or replace when damaged.

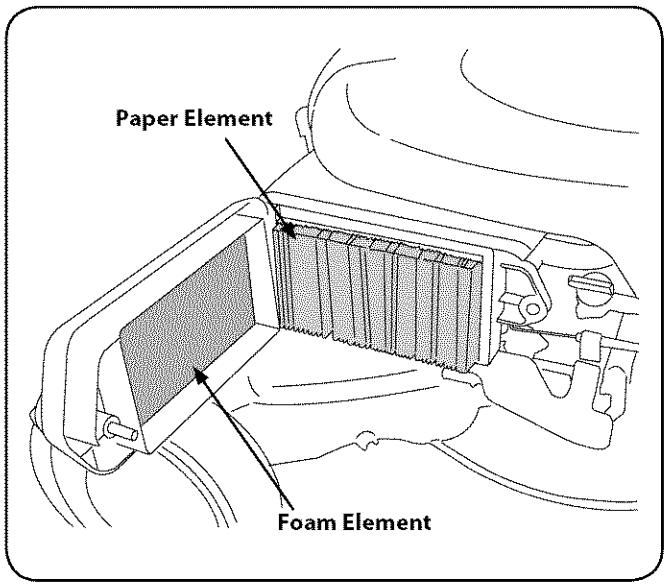


Figure 10-2

2. To clean foam element, separate it from the paper element and wash in liquid detergent and water. Allow to dry thoroughly before using. Do not oil the foam element.

Spark Plug Service

WARNING: DO NOT check for spark with spark plug removed. DO NOT crank engine with spark plug removed.

To ensure proper engine operation, the spark plug must be properly gapped and free of deposits.

1. Remove the spark plug boot and use a spark plug wrench to remove the plug. See Fig. 10-3.

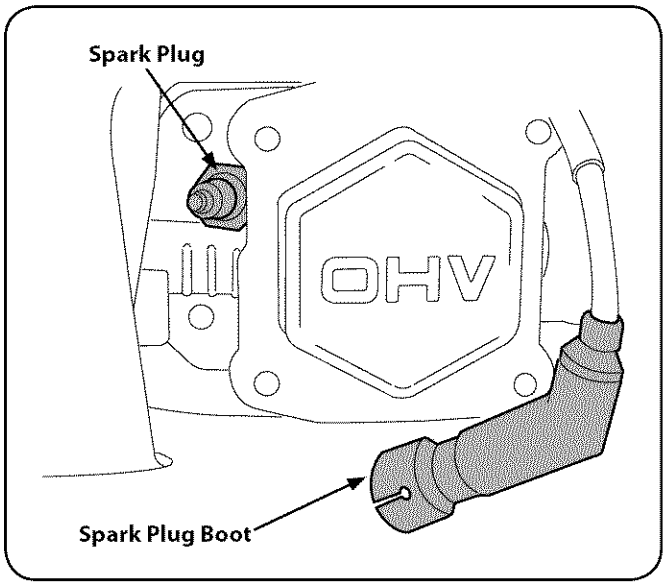


Figure 10-3

WARNING: If the engine has been running, the muffler will be very hot. Be careful not to touch the muffler.

2. Visually inspect the spark plug. Discard the spark plug if there is apparent wear, or if the insulator is cracked or chipped. Clean the spark plug with a wire brush if it is to be reused.

3. Measure the plug gap with a feeler gauge. Correct as necessary by bending side electrode. See Fig. 10-4. The gap should be set to 0.030 in.

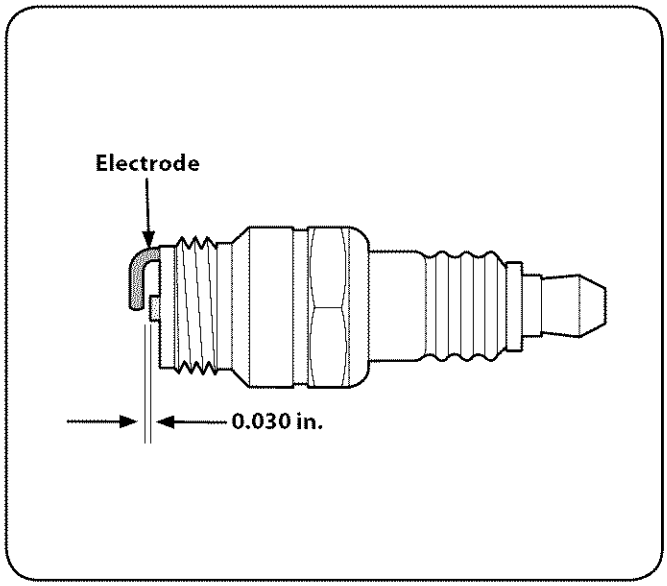


Figure 10-4

4. Check that the spark plug washer is in good condition and thread the spark plug in by hand to prevent cross-threading.

5. After the spark plug is seated, tighten with a spark plug wrench to compress the washer.

   NOTE: When installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. When reinstalling a used spark plug, tighten 1/8-1/4 turn after the spark plug seats to compress the washer.

   IMPORTANT: The spark plug must be securely tightened. An improperly tightened spark plug can become very hot and may damage the engine.

Fuel Filter Service

The fuel filter cannot be cleaned and must be replaced once a year or every 100 operating hours; more often if run with old gasoline.

1. Remove all fuel from tank by running engine until it stops from lack of fuel.
2. Remove c-clamp from fuel line and remove fuel line from tank outlet. See Fig. 10-5.

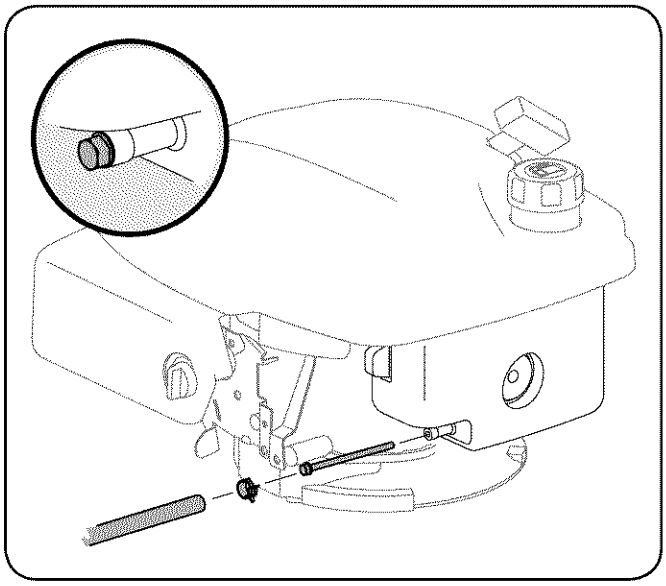


Figure 10-5

3. Pull out old fuel filter from tank outlet. Replace when dirty or damaged.
4. Grasp new fuel filter from shouldered end and insert it completely to the shoulder into the tank outlet. See Fig. 10-5 inset.
5. Replace fuel line and c-clamp.

Clean Engine

If the engine has been running, allow it to cool for at least half an hour before cleaning. Periodically remove dirt build-up from engine. Clean finger guard and around muffler. Clean with a brush or compressed air.

IMPORTANT: Do not spray engine with water to clean because water could contaminate fuel. Using a garden hose or pressure washing equipment can also force water into the air cleaner or muffler opening. Water in the air cleaner will soak the paper element, and water that passes through the element or muffler can enter the cylinder, causing damage.

WARNING: Accumulation of debris around muffler could cause a fire. Inspect and clean before every use.

Storage

Engines stored between 30 and 90 days need to be treated with a gasoline stabilizer and engines stored over 90 days need to be drained of fuel to prevent deterioration and gum from forming in fuel system or on essential carburetor parts. If the gasoline in your engine deteriorates during storage, you may need to have the carburetor, and other fuel system components, serviced or replaced.

1. Remove all fuel from tank by running engine until it stops from lack of fuel.

WARNING: Never leave engine unattended while running.

2. Change oil. See Oil Change section.
3. Remove spark plug and pour about 1/2 an ounce of engine oil into cylinder. Replace spark plug and crank slowly to distribute oil.
4. Clean debris from around engine, under finger guard, and under, around and behind muffler. Touch up any damaged paint, and coat other areas that may rust with a light film of oil.
5. Store in a clean, dry and well ventilated area away from any appliance that operates with a flame or pilot light, such as a furnace, water heater, or clothes dryer. Also avoid any area with a spark producing electric motor, or where power tools are operated.
6. If possible, also avoid storage areas with high humidity, because that promotes rust and corrosion.
7. Keep the engine level in storage. Tilting can cause fuel or oil leakage.

Removing From Storage

1. Check your engine as described in the Pre-Operation Check section of this manual.
2. If the fuel was drained during storage preparation, fill the tank with fresh gasoline. If you keep a container of gasoline for refueling, make certain it contains only fresh fuel. Gasoline oxidizes and deteriorates over time, causing hard starting.
3. If the cylinder was coated with oil during storage preparation, the engine will smoke briefly at startup. This is normal.

The EZ Start Promise

Provisions of Your Limited Warranty

In addition to the other terms and conditions of the Limited Warranty applicable to your new mower, MTD LLC ("MTD") hereby warrants that your mower's engine will start on the first or second attempt by an able-bodied adult (subject to the limitations described below) for the duration of the manufacturer's limited warranty applicable to your product. If the engine on your mower fails to conform to this limited warranty, MTD will cover the cost of parts and labor associated with any adjustments and/or repairs necessary to return your engine to its warranted condition. In order to make a claim under these provisions of your warranty, you must bring the product and proof of purchase to an authorized MTD service provider. In many cases, the retailer who sold you your mower is not equipped to provide warranty service, so please locate the authorized service dealer nearest you by either calling the phone number provided in your Operators Manual or looking up an authorized service dealer on-line at www.mtdproducts.com.

Items and Conditions Not Covered

The EZ Start Promise does not cover and/or apply to the following:

- Cost of regular maintenance service or parts, such as filters, fuel, lubricants, oil changes, spark plugs, air filter, blade sharpening, worn blades, cable/linkage adjustments, or brake and clutch adjustments
- Transportation costs to and from an authorized MTD service provider
- Any engine used for commercial, rental, institutional, governmental, or non-residential applications
- Any product or part that has been altered or misused or required replacement or repair due to misuse, accidents, or lack of proper maintenance
- Repairs necessary due to improper battery care, electrical supply irregularities, or failure to properly prepare the mower prior to any period of non-use over three months
- Pickup and/or delivery charges
- Operational misuse, neglect, accidents, unauthorized repairs or attempted repairs of the engine or its components by anyone other than an authorized MTD service provider.
- Repairs or adjustments to correct starting difficulties due to any of the following: failure to follow proper maintenance procedures — rotary mower blade striking an object — contaminants in the fuel system — improper fuel or fuel/oil mixture (consult your Operator's Manual if in doubt) — failure to drain the fuel system prior to any period of non-use over three months.
- Any starting problem which results from the use of inappropriate fuels, lubricants, or additives.
- Special conditions or circumstances that normally require more than two pulls to start, specifically: 1) First start-up following your initial purchase, 2) first time starts after extended period(s) of non-use over one month or seasonal storage, 3) cool temperature starts such as those found in early spring and late autumn, and 4) difficult starting that results from the operator's failure to follow the proper starting procedures identified in the Operator's Manual. If you are having difficulty starting your unit, please check the Operator's Manual to ensure that you are using the correct starting procedures. This can save an unnecessary visit to a Service Dealer.

Owner Responsibilities

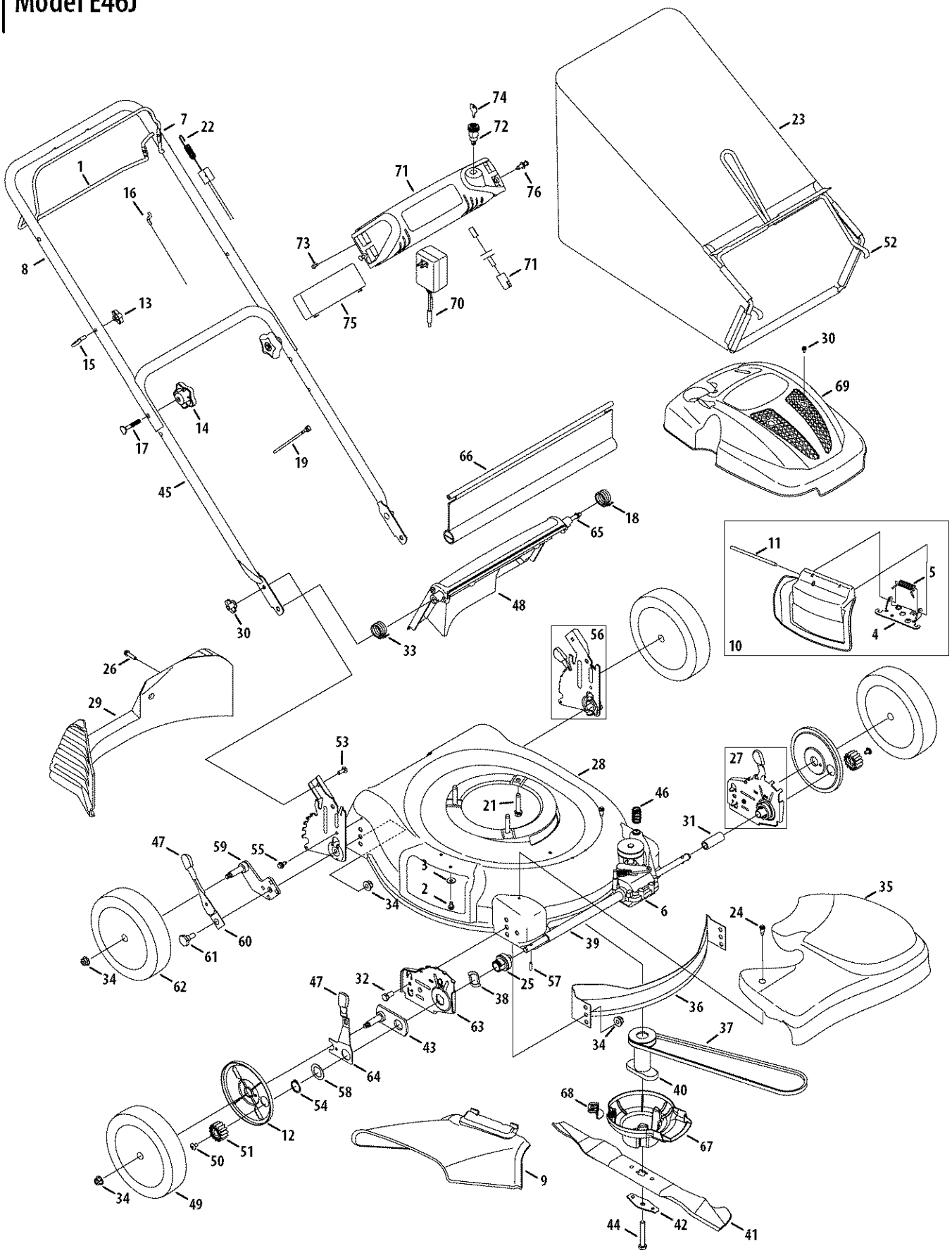
You must maintain your mower (including its engine) by following the maintenance procedures and starting instructions described in the Operator's Manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense. In addition, please retain your proof of purchase and service receipts as these may be required to validate a claim.

General Conditions

An authorized MTD service provider using approved replacement parts must perform all repairs covered by the EZ Start Promise. Repair by an MTD authorized service dealer is your sole remedy under this warranty. MTD is not liable for indirect, incidental, or consequential damages in connection with the use of the products covered by these warranties, including any cost or expense of providing substitute equipment or service during reasonable periods of malfunction or non-use pending completion of repairs under this warranty.

Some states do not allow exclusions of incidental or consequential damages, or limitations on how long an implied warranty lasts, so certain exclusions and limitations may not apply to you.

Model E46J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Ref No.	Part Number	Description
1	747-1214	Drive Control
2	710-0599	TT Screw 1/4-20 x 0.5
3	736-0270	Bell Washer.265 x 0.75
4	17032A	Deflector Chute Adapter
5	732-1014	Torsion Spring
6	618-04376A	Transmission Assembly
7	747-1161A	Blade Control
8	749-1233D	Upper Handle
9	731-04177	Chute Deflector
10	687-02055	Mulch Plug Complete
11	747-0710	Hinge Pin
12	782-7551A	Wheel Dust Cap
13	720-0279	Handle Knob
14	720-04072	Star Knob
15	710-1205	Eye Bolt
16	746-1132	Control Cable
17	710-1174	Carriage Bolt 5/16-18 x 2.0
18	732-04089A	Torsion Spring - LH
19	726-0240	Cable Tie
20	710-04744	Screw, HL, #12-16 x 1.00
21	710-0654A	Self-Tapping Sems Screw
22	746-04203	Drive Cable
23	664-04027	Grassbag
24	710-1650	Shoulder Screw # 12 -24
25	687-02347	Front Bearing Assembly
26	710-1241	Screw, 1/4-15 x 1.000
27	687-02194A	Height Adjustment Ass'y - RH
	687-02193A	Height Adjustment Ass'y - LH
28	787-01278	21" Deck
29	731-04150C	Rear Baffle
30	712-0397	Wing Nut
31	750-04595	Slev. Spacer 1.4" Lg.
32	710-0216	Hex Screw, 3/8-16 x.75
33	732-04090A	Torsion Spring - RH
34	712-04065	Flange Lock Nut, 3/8-16
35	731-05021A	Transmission Cover
36	782-5002B	Front Baffle
37	754-0637A	V-Belt
38	736-0447	Wave Washer
39	750-04594	Sleeve Spacer 8.985" Lg.
40	748-04015A	One Piece Blade Adapter

Ref No.	Part Number	Description
41	742-0741	21" Mulching Blade
42	736-0524B	Blade Bell Support
43	687-02334	Pivot Plate Assembly
44	710-1257	Hex Screw 3/8-24 x 2.50
45	749-0928A	Lower Handle
46	732-1043	Belt Tension Spring
47	720-0426	Adjustment Knob
48	731-05865	Rear Discharge Door
49	634-04100	Front Wheel
50	710-04531	Screw, 1/4-20 x .390
51	717-1762	Gear 14T RH FWD
	717-1761	Gear 14T LH FWD
52	747-04080A	Grass Bag Frame
53	710-0703	Carriage Bolt 1/4-20
54	716-0102	Snap Ring
55	710-1652	TT Scr. w/Washer 1/4-20 x.625
56	687-02271A	Handle Bracket Assembly - RH
	687-02270A	Handle Bracket Assembly - LH
57	715-0221	Dowel Pin
58	736-0474	Washer
59	687-02333	Pivot Arm Assembly - RH
	687-02332	Pivot Arm Assembly - LH
60	732-04175	Rear Spring Lever
61	738-04266	Shoulder Scr.500 Dia. x.434
62	734-04087	Rear Wheel
63	782-01298	Height Adjuster Plate - RH
	782-01299	Height Adjuster Plate - LH
64	732-0706	Front Lever - RH
	732-0707	Front Lever - LH
65	747-04587	Pivot Rod
66	731-05642	Rear Trailing Shield
67	731-06029	Engine Baffle
68	787-01593	Engine Baffle Bracket
69	731-05401	Engine Shroud
70	51568	Battery Charger
71	629-04029	Electric Start Harness Assembly
72	725-04347	Key Switch
73	710-1667A	Screw, #10-16 x .750
74	725-0201	Key
75	725-04323	Battery
76	728-0199	Rivet

MTD CONSUMER GROUP (MTD) and the United States Environment Protection Agency (U. S. EPA)

Emission Control System Warranty Statement

(Owner's Defect Warranty Rights and Obligations)

The U. S. EPA and MTD are pleased to explain the emissions control system warranty on your model year 2005 and later small off-road engine. New small off-road engines must be designed, built and equipped to meet the stringent anti-smog standards. MTD must warranty the emission control system on your engine for the period of time listed below, provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your emission control system may include parts such as the carburetor, air cleaner, ignition system, exhaust system, and other associated emission-related components.

Where a warrantable condition exists, MTD will repair your small off-road engine at no cost to your including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

This emissions control system is warranted for two years. If any emission-related part on your engine is defective, the part will be repaired or replaced by MTD.

OWNER'S WARRANTY RESPONSIBILITIES:

As the small off-road engine owner, you are responsible for the performance of the required maintenance listed in your Owner's Manual. MTD recommends that you retain all your receipts covering maintenances on your small off-road engine, but MTD can not deny warranty solely for the lack of receipts or for your failure to ensure the performance to all scheduled maintenance.

As the small off-road engine owner, you should however be aware that MTD may deny your warranty coverage if your small off-road engine or part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

You are responsible for presenting your small off-road engine to an Authorized MTD Service Dealer as soon as a problem exists. The warranted repairs should be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact a MTD Service Representative at 1-800-800-7310 and address is MTD LLC, P.O. Box 361131, Cleveland OH, 44136-0019.

DEFECTS WARRANTY REQUIREMENTS FOR 1995 AND LATER SMALL OFF-ROAD ENGINES:

This section applies to 1995 and later small off-road engines. The warranty period begins on the date the engine or equipment is delivered to an ultimate purchaser.

(a) General Emissions Warranty Coverage

MTD must warrant to the ultimate purchaser and each subsequent purchaser that the engine is:

(1) Designed, built, and equipped so as to conform with all applicable regulations adopted by the Air Resources Board pursuant to its authority in Chapters 1 and 2,Part 5, Division 26 of the Health and Safety Code; and

(2) Free from defects in materials and workmanship that cause the failure of a warranted part to be identical in all material respects to the part as described in the engine manufacturer's application for certification for a period of two years.

(b) The warranty on emissions-related parts will be interpreted as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions required by Subsection (c) must be warranted for the warranty period defined in Subsection (a)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by MTD according to Subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for the remaining warranty period.

(2) Any warranted part that is scheduled only for regular inspection in the written instructions required by Subsection (c) must be warranted for the warranty period defined in Subsection (a)(2). A statement in such written instructions to the effect of "repair or replace as necessary" will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for the remaining warranty period.

(3) Any warranted part that which is scheduled for replacement as required maintenance in the written instructions required by Subsection (c) must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by MTD according to Subsection (4) below. Any such part repaired or replaced under warranty must be warranted for the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the warranty provisions of this article must be performed at no charge to the owner at a warranty station.

(5) Notwithstanding the provisions of Subsection (4) above, warranty services or repairs must be provided at all MTD distribution centers that are franchised to service the subject engines.

(6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) The engine manufacturer is liable for damages to other engine components proximately caused by a failure under warranty of any warranted part.

(8) Throughout the engine's warranty period defined in Subsection (a)(2), MTD will maintain a supply of warranted parts sufficient to meet the expected demand for such parts.

(9) Any replacement part may be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of MTD.

(10) Add-on or modified parts that are not exempted by the Air Resources Board may not be used. The use of any non-exempted add-on or modified parts shall be grounds for disallowing a warranty claim made in accordance with this article. The engine manufacturer shall not be liable under this article to warrant failures of warranted parts caused by the use of non-exempted add-on or modified part.

(c) MTD will include a copy of the following emission warranty parts list with each new engine, using those portions of the list applicable to the engine.

(1) Fuel Metering System

- Cold start enrichment system (soft choke)
- Carburetor and internal parts
- Fuel Pump

(2) Air Induction System

- Air cleaner
- Intake manifold

(3) Ignition System

- Spark plug(s)
- Magneto Ignition System

(4) Exhaust System

(5) Miscellaneous Items Used in Above System

- Vacuum, temperature , position, time sensitive valves and switches
- Connectors and assemblies

MANUFACTURER'S LIMITED WARRANTY FOR

The limited warranty set forth below is given by MTD LLC with respect to new merchandise purchased and used in the United States and/or its territories and possessions, and by MTD Products Limited with respect to new merchandise purchased and used in Canada and/or its territories and possessions (either entity respectively, "MTD").

"MTD" warrants this product (excluding its *Normal Wear Parts and Attachments* as described below) against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any part, accessory or attachment not approved by MTD for use with the product(s) covered by this manual will void your warranty as to any resulting damage.

Normal Wear Parts are warranted to be free from defects in material and workmanship for a period of thirty (30) days from the date of purchase. Normal wear parts include, but are not limited to items such as: batteries, belts, blades, blade adapters, tines, grass bags, wheels, rider deck wheels, seats, snow thrower skid shoes, friction wheels, shave plates, auger spiral rubber, engine oil, air filters, spark plugs and tires.

Attachments — MTD warrants attachments for this product against defects in material and workmanship for a period of one (1) year, commencing on the date of the attachment's original purchase or lease. Attachments include, but are not limited to items such as: grass collectors and mulch kits.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE, through your local authorized service dealer. To locate the dealer in your area:

In the U.S.A.

Check your Yellow Pages, or contact MTD LLC at P.O. Box 361131, Cleveland, Ohio 44136-0019, or call 1-800-800-7310, 1-330-220-4683 or log on to our Web site at www.mtdproducts.com.

In Canada

Contact MTD Products Limited, Kitchener, ON N2G 4J1, or call 1-800-668-1238 or log on to our Web site at www.mtdcanada.com.

This limited warranty does **not** provide coverage in the following cases:

a. Log splitter pumps, valves, and cylinders have a separate one-year warranty.

b. Routine maintenance items such as lubricants, filters, blade sharpening, tune-ups, brake adjustments, clutch adjustments, deck adjustments, and normal deterioration of the exterior finish due to use or exposure.

c. Service completed by someone other than an authorized service dealer.

d. MTD does not extend any warranty for products sold or exported outside of the United States and/or Canada, and their respective possessions and territories, except those sold through MTD's authorized channels of export distribution.

e. Replacement parts that are not genuine MTD parts.

f. Transportation charges and service calls.

g. MTD does not warrant this product for commercial use.

No implied warranty, including any implied warranty of merchantability of fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind MTD. During the period of the warranty, the exclusive remedy is repair or replacement of the product as set forth above.

The provisions as set forth in this warranty provide the sole and exclusive remedy arising from the sale. MTD shall not be liable for incidental or consequential loss or damage including, without limitation, expenses incurred for substitute or replacement lawn care services or for rental expenses to temporarily replace a warranted product.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. **Alteration of safety features of the product shall void this warranty.** You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW STATE LAW RELATES TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

IMPORTANT: Owner must present Original Proof of Purchase to obtain warranty coverage.

MTD LLC, P.O. BOX 361131 CLEVELAND, OHIO 44136-0019; Phone: 1-800-800-7310, 1-330-220-4683
MTD Canada Limited - KITCHENER, ON N2G 4J1; Phone 1-800-668-1238

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